

MARYLAND HISTORICAL TRUST  
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ☐  
no ☐

Property Name: SHA Bridge No. 2101700, US 40/Little Beaver Creek Inventory Number: WA-II-1115  
Address: National Pike (US 40) Historic district: ☐ yes ☒ no  
City: Wagners Crossroads Zip Code: \_\_\_\_\_ County: Washington  
USGS Quadrangle(s): Funkstown  
Property Owner: State Highway Administration Tax Account ID Number: \_\_\_\_\_  
Tax Map Parcel Number(s): \_\_\_\_\_ Tax Map Number: \_\_\_\_\_  
Project: Reevaluation of Highway Bridges Statewide MD Agency: FHWA/MD SHA  
Agency Prepared By: KCI Technologies, Inc.  
Preparer's Name: Gail Walls Date Prepared: 10/16/2009  
Documentation is presented in: Project Review and Compliance Files  
Preparer's Eligibility Recommendation: \_\_\_\_\_ Eligibility recommended ☒ Eligibility not recommended  
Criteria: ☐ A ☐ B ☐ C ☐ D Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G  
*Complete if the property is a contributing or non-contributing resource to a NR district/property*  
Name of the District/Property: \_\_\_\_\_  
Inventory Number: \_\_\_\_\_ Eligible: ☐ yes Listed: ☐ yes  
Site visit by MHT Staff ☐ yes ☒ no Name: \_\_\_\_\_ Date: \_\_\_\_\_

Description of Property and Justification: *(Please attach map and photo)*

SHA Bridge No. 2101700 (MIHP No. WA-II-1115) is located near Wagners Crossroads, Washington County and carries US 40 over Little Beaver Creek; the bridge is located within a rural area with approximately 5 homes located in its vicinity. The bridge is situated along the Old National Road Scenic Byway. ~~The bridge appears to be situated within the Canal Place Certified Heritage Area.~~

Built in 1936, the twenty-nine foot, one-span, concrete girder bridge carries one lane of traffic in each direction. The length of the bridge is 29 feet with a width of 40 feet. The bridge was constructed according to the 1933 standard plans; however, additional girders were added in 1949. The superstructure is supported by concrete abutments and flared wingwalls. The parapets were removed and replaced with steel W-beam guardrails before 1988. US 40 runs east-west and is characterized as a Rural Major Collector. The current ADT is 6,392 while the projected 2026 ADT is 7,370. The BSR is 86.4.

Background

The Interagency Historic Highway Bridge Inventory Committee (HHBIC) considered the MIHP form in 1997 and subsequently

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended \_\_\_\_\_ Eligibility not recommended ☒  
Criteria: ☐ A ☐ B ☐ C ☐ D Considerations: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

MHT Comments:

*lost in integrity*

*Jim Faulkner*  
Reviewer, Office of Preservation Services

*5/14/10*  
Date

*N/A*  
Reviewer, National Register Program

Date

determined Bridge No. 2101700 to be eligible for listing in the NRHP under Criterion C. The Maryland Historical Trust (MHT) concurred with the determination in 2001.

SHA Bridge No. 2101700 was re-evaluated for NRHP eligibility as part of the 2009 statewide re-evaluation of the eligible bridges in SHA's Historic Highway Bridge Inventory. SHA requested that KCI conduct research to gather information and provide additional analysis of each bridge's integrity and significance to supplement the original NRHP evaluation. As part of the re-evaluation of Bridge No. 2101700 in 2009, KCI conducted additional research at SHA's Office of Structures (OOS) to gather information on alterations or repairs made to the bridge prior to 1998. The following files at OOS were reviewed by the architectural historians: inspection files, repair history files, bridge plans, Bridge Inspection and Remedial Engineering (BIRE) worklist, and Structure Inventory and Appraisal (SI&A) reports. The Historic Highway Bridges in Maryland: 1631-1960: Historical Context Report, as well as A Context for Common Historic Bridge Types, NCHRP Project 25-25, Task 15, were both consulted in evaluating the bridge's historic significance. KCI also referenced each bridge's original Maryland Inventory of Historic Places (MIHP) form for what information previously gathered on the bridge and as a measure of how the bridge's integrity has changed since 2001. As part of the re-evaluation of Bridge No. 2101700 in 2009, KCI architectural historians visited the bridge to examine and document current conditions with field notes, digital photography, and black and white photography.

#### Evaluation and Justification

In the 1996 MIHP form for this bridge, it was noted that the structure did not retain the majority of its CDEs because of the widening of the bridge in 1949 and the removal of the parapets during the late-1980s. The MIHP form referenced the inspection reports, which indicated that the bridge required scour protection at the abutments and wingwalls.

According to the 1995 inspection, the superstructure was rated a 6. The girders had cracking with heavy efflorescence and rust stains. Irregular cracking was also noted. The interior girders had some spalling with exposed rebar. The steel W-beam guardrail was in good repair. The 2009 field survey observed that, the girders have long cracks with heavy efflorescence, staining and stalactites.

According to the 1995 inspection, the substructure was rated a 6. The west abutment had a few full height vertical cracks and some irregular cracking at the weep holes. Heavy scaling was a problem at the bottom of the abutment and the footers. The east abutment had similar cracks along with light efflorescence. Severe scaling was noted at the exposed footer. The back walls had vertical and irregular cracks with some efflorescence and some rust stains. The concrete wingwalls had fine irregular and mapping cracks with some efflorescence. Scaling was located at the water line. Scour was noted as a problem at both abutments as the footer was exposed up to 3 feet for the entire length of the bridge. The south end was undermined approximately 2 feet. According to the BIRE Engineer's Worklist, the following work was completed in 1996: 1) underpinning the abutments with grout, and 2) lining the entire invert with grout bags.

Based on the 2009 field survey, the cracking on the abutments is more severe with some cracks reaching full height. Grout bags have been placed along both abutments. The backwalls have light to medium scaling with some vertical and horizontal cracking. The west abutment backwall has heavy efflorescence. The wingwalls have some irregular cracking with scaling and shallow spalling at the top. Heavy scaling was noted at the top of the southeast wingwall. The field visit noted crumbling concrete. Vegetation was growing on the northeast wingwall at the time of the 2009 field visit.

According to the 1995 inspection report, the deck was rated a 6. The deck had some longitudinal cracks that had been sealed. The shoulder areas were hollow sounding. Both ends had full, width transverse cracks. From the 2009 field visit, it was observed that

#### MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended \_\_\_\_\_

Eligibility not recommended \_\_\_\_\_

Criteria: \_\_\_A\_\_\_ \_\_\_B\_\_\_ \_\_\_C\_\_\_ \_\_\_D\_\_\_ Considerations: \_\_\_A\_\_\_ \_\_\_B\_\_\_ \_\_\_C\_\_\_ \_\_\_D\_\_\_ \_\_\_E\_\_\_ \_\_\_F\_\_\_ \_\_\_G\_\_\_

MHT Comments:

\_\_\_\_\_  
Reviewer, Office of Preservation Services

\_\_\_\_\_  
Date

\_\_\_\_\_  
Reviewer, National Register Program

\_\_\_\_\_  
Date

the curb is in poor repair with portions crumbling on the north side at the east end and crumbling concrete and exposed rebar on the south side.

According to the MIHP form, SHA Bridge No. 2101700 "formed part of the modern US 40 built in response to increased automobile use on state roads and the growing inadequacy of the original road system improved by the State Road Commission (SRC) to handle larger traffic volumes." Although the original MIHP form noted that the bridge may be significant under Criterion A for its relationship to broad transportation trends or road improvement projects, the bridge has lost integrity because of a continuous loss of materials, design, and workmanship. In addition, the original MIHP form noted that this bridge is not a significant example of its type and is not a significant example of the State Roads Commission's bridge building in the 1930s.

Standard plans for concrete girder bridges were first developed in Maryland in 1912. In 1919 the plans were re-designed to allow for widening of the roadways and reinforcement of the bridges. In 1924, and again, in 1930 the standard plans were re-designed to allow for changes in transportation needs (Spero 159-160).

A close examination reveals that the bridge has lost integrity because of a continuous loss of materials, design, and workmanship. The setting, location, and association of the bridge have not changed and remain good. The overall feeling of the bridge is poor due to the deteriorated condition of the structure. The structure is not an important example of a concrete beam bridge of its time period. According to the Context for Common Historic Bridge Types, significant girders constructed from standard plans should be constructed prior to 1925, preferably during the first decade of the twentieth century when standard plans were first introduced. Later, significant girders were introduced after World War II as a precast beam or structural component girder bridge during interstate construction (NCHRP Report 25-25, Task 15, p. 3-94).

Furthermore, although the bridge was constructed according to early standardized plans, the alterations prevent it from fully demonstrating its original design, materials, and workmanship. Research conducted as part of this study did not identify associations with any important architect or engineer nor does it possess high artistic value. However, the bridge is not a pure example of an early example built from a standardized plan (e.g. the 1949 widening and the 1980s removal of the parapets). Based on this evaluation, Bridge No. 2101700 is recommended not eligible for inclusion in the NRHP under Criterion C.

Additional research indicates that the bridge is not associated with known events of local, regional, or national significance (Criterion A), or known persons of local, regional, or national significance (Criterion B). Criterion D was not evaluated as part of the historic standing structures studies for this project.

#### Bibliography

National Cooperative Highway Research Program. Transportation Research Council. National Research Council. Prepared by Parsons Brinkerhoff and Engineering and Industrial Heritage. A Context for Common Historic Bridge Types. NCHRP Project 25-25, Task 15. 2005.

Spero, P.A.C. and Company and Louis Berger & Associates. Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Prepared for Maryland State Highway Administration. July 1995. Revised October 1995.

#### MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended \_\_\_\_\_ Eligibility not recommended \_\_\_\_\_

Criteria: \_\_\_A\_\_\_B\_\_\_C\_\_\_D Considerations: \_\_\_A\_\_\_B\_\_\_C\_\_\_D\_\_\_E\_\_\_F\_\_\_G

MHT Comments:

\_\_\_\_\_  
Reviewer, Office of Preservation Services

\_\_\_\_\_  
Date

\_\_\_\_\_  
Reviewer, National Register Program

\_\_\_\_\_  
Date

MIHP No. WA-II-1115  
SHA Bridge No. 2101700  
US 40 over Little Beaver Creek  
Washington County, Maryland

### Photograph Log

Image File Name	Description of View
WA-II-1115_2009-01-26_01.tif	South side of bridge guiderail/parapet, facing south
WA-II-1115_2009-01-26_02.tif	West elevation, facing east
WA-II-1115_2009-01-26_03.tif	East elevation, facing west
WA-II-1115_2009-01-26_04.tif	West approach, facing east
WA-II-1115_2009-01-26_05.tif	Southeast abutment, facing south

Printed on Epson Premium Photo Paper Glossy with Epson UltraChrome Black Ink

Saved on Verbatim UltraLife Archival Grade DVD-R, AZO recording dye



WA-11-1115

SHA Bridge No 2101700- US 40 over Little Beaver Creek  
Washington County, Maryland

Brian Koller

January 26, 2009

MD SHAPO

Southside of bridge facing South

1/5





WA-11-1115

SHA Bridge No 2101700 - US 40 over Little Beaver Creek  
Washington County, Maryland

Brian Kolter

January 26, 2009

MD SHPO

West elevation facing east

2/5





WA-11-1115

SAA Bridge No 2101700- US 40 over Little Beaver Creek

Washington County, Maryland

Brian Koller

January 26, 2009

MD SHPO

East elevation facing west

3/5



WA -11 -1115

SHA Bridge No 2101700 - US 40 over Little Beaver Creek  
Washington County Maryland

Brian Keller

January 26, 2009

MD SHAPO

West approach at bridge facing east

1/5



WA-11-1115

SHA Bridge No 2101 700 ~ US 90 over Little Beaver  
Creek

Brian Koller

January 26, 2009

MO SHPO

Southeast abutment facing south

5/5

Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-II-115

Name: #21017/US 40 OVER LITTLE BEAVER CREEK

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended <u>X</u>	Eligibility Not Recommended _____
Criteria: <u>  </u> A <u>  </u> B <u>  </u> C <u>  </u> D Considerations: <u>  </u> A <u>  </u> B <u>  </u> C <u>  </u> D <u>  </u> E <u>  </u> F <u>  </u> G <u>  </u> None	
Comments: _____	
_____	
_____	
Reviewer, OPS: <u>Anne E. Bruder</u>	Date: <u>3 April 2001</u>
Reviewer, NR Program: <u>Peter E. Kurtze</u>	Date: <u>3 April 2001</u>



MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST

MHT NO. WA-II-1115

NAME AND SHA NO.: 21017

LOCATION

Road Name and Number: US 40 over Little Beaver Creek

City/Town: Wagners Crossroads X vicinity

County: Washington

Ownership: X State    County    Municipal    Other

Bridge projects over:    Road    Railway X Water    Land

Is bridge located within designated district?:    yes X no  
   NR listed district    NR determined eligible district  
   locally designated    other  
Name of District   

BRIDGE TYPE

- Timber Bridge  
     Beam Bridge    Truss-Covered    Trestle    Timber-and-Concrete
- Stone Arch Bridge
- Metal Truss Bridge
- Moveable Bridge  
     Swing    Bascule Single Leaf    Bascule Multiple Leaf  
     Vertical Lift    Retractable    Pontoon
- Metal Girder  
     Rolled Girder    Rolled Girder Concrete Encased  
     Plate Girder    Plate Girder Concrete Encased
- Metal Suspension
- Metal Arch
- Metal Cantilever
- X Concrete  
   Concrete Arch    Concrete Slab X Concrete Beam    Rigid Frame  
   Other Type Name

## DESCRIPTION

### **Describe the Setting:**

Bridge 21017 carries US 40 over Little Beaver Creek in the eastern part of Washington County. US 40 runs in an east-west direction at this location; Little Beaver Creek flows north-south. The bridge is located in a rural area within the Appalachian Plateau physiographic province, which includes the mountainous region of western Maryland. Situated in a largely undeveloped area, several residences stand near both ends of the bridge.

### **Describe the Superstructure and Substructure:**

**(Discuss points identified in Context Addendum, Section C)**

Bridge 21017, a single-span concrete girder bridge, has a clear span length of 23' and an overall bridge length of 29'. Inspection reports indicate that although construction details of the bridge closely match the 1933 standard, additional concrete girders were added to the bridge's superstructure which employs 8 beams to support the concrete deck. The asphalt roadway has a 40' width and carries two lanes of traffic. The original concrete parapets have been removed and steel W-beam guardrails run along the outer edges of the bridge. The substructure consists of striated concrete abutments and wing walls.

Recent inspection reports indicated the need for scour protection for the abutments and wing walls.

A survey of historic concrete beam bridges undertaken by the Maryland State Highway Administration in the Fall of 1995 identified 113 bridges of that type located throughout the state. Slightly more than two-thirds (76) of that total were single-span bridges.

### **Discuss major alterations:**

According to an inspection report dated 1978, the bridge was widened in 1949. The original parapets were removed from the curblin up and replaced with guardrail sometime before 1988.

## HISTORY

**When Built:** 1936

**Why Built:** Statewide road improvement programs and local transportation needs

**Who Built:** State Roads Commission of Maryland

**Who Designed:** Unknown

**Why Altered:** Widening

**MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST**

**MHT NO. WA-II-1115**

**Was this bridge built as part of an organized bridge building campaign?: Yes**

Beginning in 1935, the State Roads Commission outlined plans to construct US 40 westward from Baltimore to Frederick, by extending the existing US 40, which ran eastward from Baltimore towards Philadelphia, in order to create a modern, dual-lane divided highway across Maryland. Following the pattern set by the earlier segment of the new road, the western portion was to be constructed on an entirely new alignment bypassing established towns and railroad crossings. Several new bridges, including 21017, became part of the highway as it extended further west through the mountainous region of the state.

**SURVEYOR ANALYSIS**

**This bridge may have NR significance for association with:**

☒ A (Events)    ☐ B (Person)    ☐ C (Engineering/Architectural Character)

**Was this bridge constructed in response to significant events in Maryland or local history?**

Erected in 1936, Bridge 21017 formed part of the modern US 40 built in response to increased automobile use on state roads and the growing inadequacy of the original road system improved by the State Road Commission (SRC) to handle larger traffic volumes. The SRC's major building effort during the 1930s, and one of the first on a new alignment designed to bypass towns and railroads slowing traffic movement, construction of the road marked a transition from the improvement of earlier roads and turnpikes characterizing the SRC's operations during the early twentieth century to an organization of highway and transportation planners.

**When the bridge was built, and/or given a major alteration, did it have a significant impact on the growth and development of the area?**

Yes. Construction of US 40 provided entry to previously sparsely populated areas in the western portion of the state and promoted commercial development along its route.

**Is the bridge located in an area which may be eligible for historic designation, and would the bridge add or detract from the historic and visual character of the possible district?**

Bridge 21017 may contribute to a potential historic district encompassing resources related to development along US 40 after its initial construction in the 1930s. Replacement of the parapet and widening in 1949, however, may render this bridge a non-contributing resource to this potential district.

**MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST**

**MHT NO. WA-II-1115**

**Is the bridge a significant example of its type?**

No, due to the widening in 1949 and the removal of its parapet, this bridge does not stand as a significant example of its type.

**Does the bridge retain integrity of the important elements described in the Context Addendum?**

No, this bridge does not retain integrity of its character defining elements. Recent reports indicate that the structure was widened in 1949 and the parapet was replaced with a steel W-beam guardrail.

**Is the bridge a significant example of the work of the manufacturer, designer, and/or engineer, and why?**

No, this bridge is not a significant example of the work of the manufacturer, designer, and/or engineer. This bridge was most likely built to standard state specifications, which corresponded to the structure's span length and year.

**Should this bridge be given further study before significance analysis is made, and why?**

Yes. Further study may indicate whether a linear historic district encompassing resources associated with the construction of US 40 during the 30s and the surrounding area's subsequent development may exist.

**BIBLIOGRAPHY**

Crosby, Walter Wilson

1906      *First Report on State Highway Construction (May 1905-January 1906)*. The Johns Hopkins Press, Baltimore.

1908      *Second Report on State Highway Construction (January 1906-January 1908)*. The Johns Hopkins Press, Baltimore.

Johnson, A.N.

1903      *Third Report on the Highways of Maryland (1902-1903)*. The Johns Hopkins Press, Baltimore.

LeViness, Charles T.

1958      *A History of Road Building in Maryland*. State Roads Commission of Maryland, Baltimore.

MARYLAND INVENTORY OF HISTORIC PROPERTIES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION  
MARYLAND HISTORICAL TRUST

MHT NO. WA-II-1115

Maryland State Highway Administration

1987-93 Bridge inspection reports. Located in the files of the Office of Bridge Development, Maryland State Highway Administration, Baltimore.

P.A.C. Spero and Company and Louis Berger and Associates, Inc.

1994 *Historic Bridges in Maryland: Historic Context Report*. Prepared for Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore.

State Roads Commission of Maryland

1930 *Reports of the State Roads Commission of Maryland for the Years 1927, 1928, 1929, and 1930*. State of Maryland, State Roads Commission, Baltimore.

1958-78 Bridge inspection reports. Located in the files of the Office of Bridge Development, Maryland State Highway Administration, Baltimore.

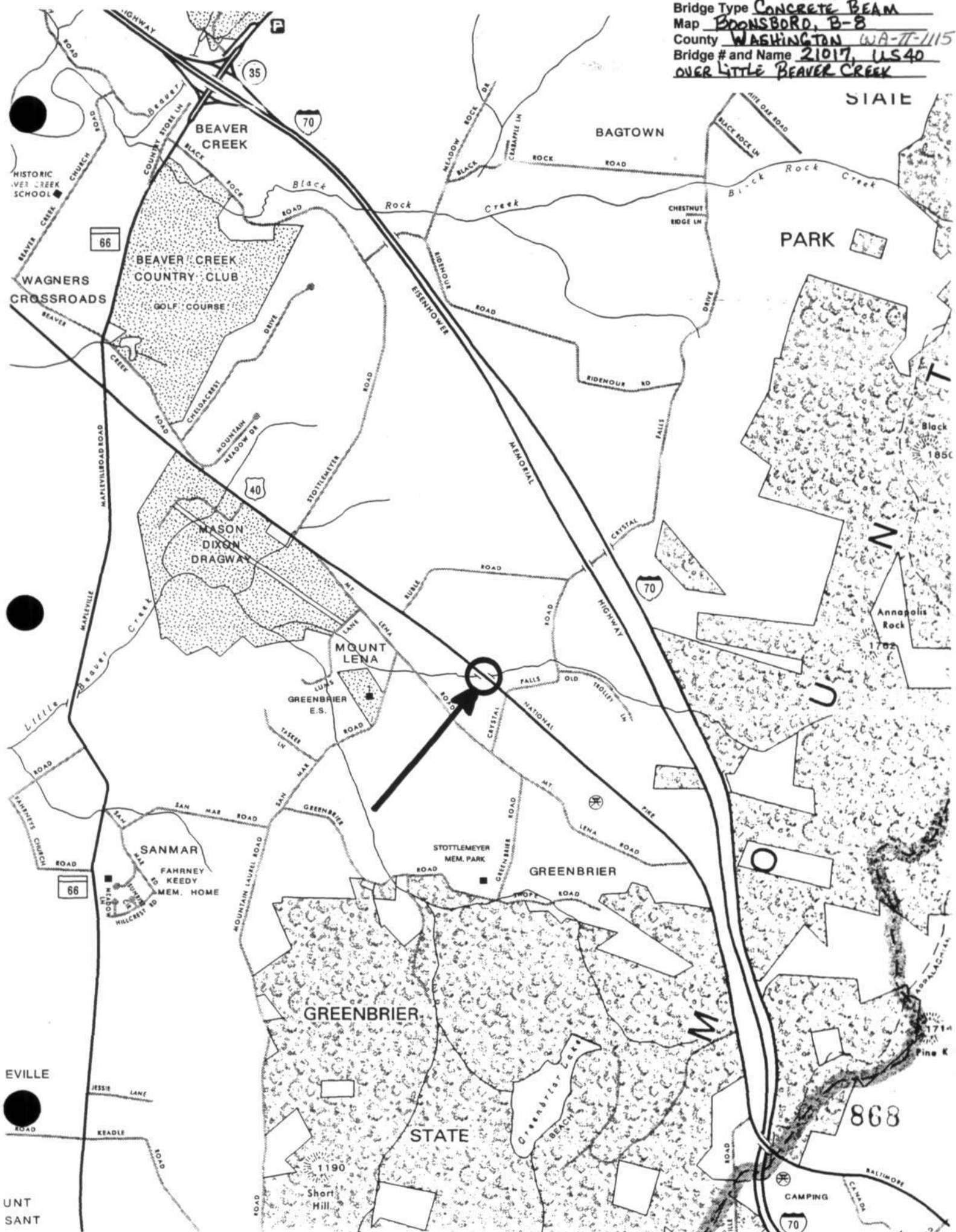
SURVEYOR INFORMATION

Name: Margaret A. Bishop and Michelle M. Lupien  
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Address: 5001 Louise Dr., Suite 201  
Mechanicsburg, PA 17055

Date: 13 May 1996  
Telephone: (717) 691-1340



Maryland Historic Highway Bridges  
Bridge Type CONCRETE BEAM  
Map BOONSBORO, B-8  
County WASHINGTON WA-77-1115  
Bridge # and Name 21017, US40  
OVER LITTLE BEAVER CREEK







WP-II-1115

OVER LITTLE BLAVER CREEK (Br# 21017)

WASHINGTON CO. MD

DAVID KING

2/23/95

S.H.A

SOUTHLAST APPROACH

1 OF 4



WA-2 - 1115  
OVER LITTLE BEAVER CREEK (B. 21017)

WASHINGTON CO., MD.

DAVID KING

2/23/95

S. H. A.

NORTHWEST APPROACH

2 OF 4



WA-II-1115  
OVER LITTLE BEAVER CREEK (30.21017)  
WASHINGTON CO., MD

DAVID KING

2/23/95

S. H. A.

SOUTHWEST ELEVATION (DOWNSTREAM)

3 OF 4



WA II-1115

OVER LITTLE BEAVER CREEK (B 21017)

WASHINGTON CO., MD.

DAVID KING

2/23/95

S. H. A.

NORTHEAST ELEVATION (OUTSTREAM)

4 OF 4